## CLAIMS

1. A multiplexer that generates multiplexed data by multiplexing packets of media data including image data and at least one of audio data and text data, comprising:

5    a media data obtainment unit operable to obtain the media data;

an analysis unit operable to analyze the media data obtained by the media data obtainment unit and obtain playback start time information that indicates a playback start time of a sample that is

10    a smallest access unit of the image data, audio data and text data included in the media data;

a packetization part determination unit operable to determine, based on the playback start time information obtained by the analysis unit, a packetization part of the media data in a way

15    that playback start times of respective samples of the image data, audio data and text data that are included in the media data are made to be the same or apporoximately the same;

a packet header part generation unit operable to generate a packet header part that holds a header of the media data on a basis

20    of the packetization part determined by the packetization part determination unit;

a packet data part generation unit operable to generate a packet data part that holds entity data of the media data on a basis of the packetization part determined by the packetization part

25    determination unit; and

a packetization unit operable to generate a packet by connecting the packet header part generated by the packet header part generation unit with the packet data part generated by the packet data part generation unit.

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2. The multiplexer according to Claim 1,
wherein the packetization part determination unit makes the

playback start times of a sample of the audio data placed in the leading part of the packetization part and a sample of the text data the same or approximately the same as the playback start time of a sample of the image data placed in the leading part of the

5    packetization part.

3.    The multiplexer according to Claim 2,
       wherein the packetization part determination unit determines a sample of the audio data and a sample of the text

10    data that are placed in the leading part of the packetization part as a sample whose playback start time is after the playback start time of a sample of the image data placed in the leading part of the packetization part and the earliest to the playback start time of a sample of the image data.

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4.    The multiplexer according to Claim 2,
       wherein the packetization part determination unit determines a sample of the audio data and a sample of the text data that are placed in the leading part of the packetization part as

20    a sample whose playback start time is before the playback start time of a sample of the image data placed in the leading part of the packetization part and the earliest to the playback start time of a sample of the image data.

25    5.    The multiplexer according to Claim 1,
       wherein the image data is video data,
       the analysis unit further analyzes the video data obtained by the media data obtainment unit and obtains intra frame information in the case where the video data includes at least one

30    sample including the intra frame information indicating that the sample is an intra coded sample,
       ˙the packetization part determination unit determines the

media data as the packetization part based on the intra frame information and the playback start time information in the case where the analysis unit obtains the intra frame information.

5    6.    The multiplexer according to Claim 5,
       wherein the packetization part determination unit places a sample of the video data including the intra frame information in the leading part of the packetization part.

10    7.    The multiplexer according to Claim 6,
       wherein the packetization part determination unit makes playback start time of a sample of the video data including the intra frame information placed in the leading part of the packetization part the same or approximately the same as the playback start
15    time of a sample of the audio data and a sample of the text data that are placed in the leading part of the packetization part.

      8.    The multiplexer according to Claim 1,
       wherein the packet data part generation unit generates the
20    packet data part for storing samples of the media data items included in the packetization part by interleaving in a way that the playback start times of the samples are in an ascending order.

      9.    The multiplexer according to Claim 8,
25       wherein the packet data part generation unit generates the packet data part for storing samples of the media data items included in the packetization part by interleaving in a way that a previously set condition is satisfied.

30    10.    A multiplexing method for generating multiplexed data by multiplexing packets of media data including image data and at least one of audio data and text data, comprising:

a media data obtainment step of obtaining the media data;

an analyzing step of obtaining the playback start time information indicating playback start time of a sample that is the smallest access unit of the image data, audio data and text data included in the media data by analyzing the media data obtained in the media data obtainment step;

a packetization part determination step of determining the packetization part of the media data making playback start times of respective samples of the image data, audio data and text data included in the media data based on the playback start time information obtained in the analysis step;

a packet header part generation step of generating the packet header part that holds a header of the media data on a basis of the packetization part determined in the packetization part determination step;

a packet data part generation step of generating the packet data part that holds entity data of the media data on a basis of the packetization part determined in the packetization part determination step; and

a packetization step of generating a packet by connecting the packet header part generated in the packet header part generation step to the packet data part generated in the packet data part generation step.

11. The multiplexer according to Claim 10,

wherein, in the packetization part determination step, playback start times of the audio data and the text data that are placed in the leading part of the packetization part is made to be the same or approximately the same as the playback start time of a sample of the image data placed in the leading part of the packetization part.

12.    The multiplexing method according to Claim 10,

wherein the image data is video data, in the analysis step, further, the intra frame information is obtained in the case where at least one sample including intra frame information indicating that 5    the video data is an intra coded sample is included by analyzing the video data obtained in the media data obtainment step, and

in the packetization part determination step,

the packetization part of the media data is determined based on the intra frame information and the playback start time 10    information in the case where the intra frame information is obtained in the analysis step.

13.    The multiplexing method according to Claim 12,

wherein, in the packetization part determination step,

15        a sample of the video data including the intra frame information is placed in the leading part of the packetization part.

14.    The multiplexing method according to Claim 13,

wherein, in the packetization part determination step,

20        playback start times of a sample of the audio data and a sample of the text data that are placed in the leading part of the packetization part are made to be the same or approximately the same as playback start time of a sample of the video data including the intra frame information placed in the leading part of the 25    packetization part.

15.    The multiplexing method according to Claim 10,

wherein, in the packet data part generation step, the packet data part for storing samples of the media data items included in 30    the packetization part is generated by interleaving in a way that playback start times of the samples are in an ascending order.

16.    A program for a multiplexer that generates multiplexed data
by multiplexing packets of media data including image data and at
least one of audio data and text data, the program causing a
computer to execute steps in a multiplexing method comprising:

5        a media data obtainment step of obtaining the media data;

        an analysis step of obtaining playback start time information
indicating playback start time of a sample that is a smallest access
unit of the image data, audio data and text data included in the
media data by analyzing the media data obtained in the media data
10    obtainment step;

        a packetization part determination step of determining,
based on the playback start time information obtained in the
analysis step, a packetization part of the media data in a way that
playback start times of respective samples of the image data, audio
15    data and text data that are included in the media data are made to
be the same or approximately the same;

        a packet header part generation step of generating a packet
header part that holds a header of the media data on a basis of
packetization    part    determined    in    the    packetization    part
20    determination step;

        a packet data part generation step of generating the packet
data part that holds entity data of the media data on a basis of the
packetization    part    determined    in    the    packetization    part
determination step; and

25        a packetization step of generating a packet by connecting
the packet header part generated in the packet header part
generation step and a packet data part generated in the packet
data part generation step.


30    17.    A demultiplexer that obtains multiplexed data where media
data including image data and at least one of audio data and text
data are included is multiplexed on a basis of a predetermined

packetization part, comprising:

a multiplexed data obtainment unit operable to obtain the multiplexed data;

an analysis demultiplex unit operable to analyze the
5    multiplexed data obtained by the multiplexed data obtainment unit, demultiplexes a header part of the packet from the multiplexed data and obtains the header part; and

a random access searching unit operable to search only a header of a sample of the image data placed in the leading part of
10   the packet header part demultiplexed by the analysis demultiplexing unit and judges whether intra frame information indicating that the sample of the image data included in the packet is an intra coded sample or not at the time of executing random access that is the processing for changing a starting position of
15   demultiplexing of the multiplexed data or starting demultiplexing in the middle of the multiplexed data.